EXHIBIT 1

EXPERT REPORT OF

Laura M. Plunkett, Ph.D., DABT

October 31, 2022

I. Training and Qualifications

1. I am a pharmacologist, toxicologist, United States Food and Drug Administration (FDA) regulatory specialist, and co-founder of BioPolicy Solutions LLC. BioPolicy Solutions has offices in Houston, TX and Ventura, CA, and is a consulting firm that works at the interface of biological science, regulatory affairs, and business decisions to provide its clients with science-based solutions to issues associated with development and marketing of existing products as well as new technologies. Before BioPolicy Solutions was formed in 2020, I was principal in the consulting firm known as Integrative Biostrategies (2001 to 2020) and head of a consulting firm known as Plunkett & Associates (1997 to 2001).

2. I am board-certified as a Diplomate of the American Board of Toxicology and am a registered patent agent in the US (USPTO Registration No. 45.015). I am a member of several professional organizations and have authored or co-authored numerous scientific publications, including a book chapter on pharmacovigilance practices in the United States and another on the regulation of food additives (listed in Appendix A). I have over thirty years of experience in the areas of pharmacology and toxicology and have worked in both government and academic research. I have taught pharmacology and toxicology at the undergraduate and postgraduate levels. I currently hold an adjunct appointment in the Department of Environmental Science, Baylor University (2017 to present).

3. I received a B.S. degree in 1980 from the University of Georgia and a Ph.D. in pharmacology from the University of Georgia, College of Pharmacy in 1984. My doctoral research was focused in the area of cardiovascular pharmacology and specifically dealt with delineating neurochemical mechanisms responsible for the cardiac toxicity of digitalis glycosides.

9. Throughout my career I have published dozens of articles which are listed in my curriculum vitae (Appendix A). In litigation, I have provided expert testimony and been qualified in both state and federal courts in the areas of pharmacology, pharmacokinetics, toxicology, risk assessment and FDA regulations, including the FDA regulations that relate to human drugs (Appendix B). Also attached to this report as Appendix C is a list of all documents I have reviewed in this case, in addition to or including documents referred to herein.

II. Summary of Key Opinions

- The carcinogenicity of NDMA has been understood for many decades and there is no controversy surrounding the fact that the compound is a potent carcinogen; an increased cancer risk is associated with exposure to nanogram levels of NDMA.
- Valsartan containing N-nitrosodimethylamine (NDMA) or N-nitrosodiethylamine (NDEA) was held out as being the generic equivalent of the FDA-approved branded drug listed in the Orange Book. This was not an accurate claim, however, because NDMA and NDEA are harmful impurities that are not listed under the branded pharmaceutical in the US Pharmacopeia (USP) valsartan monograph or the applicable valsartan FDA applications Abbreviated New Drug Applications (ANDAs).
- Diovan (the Reference Listed Drug "RLD" for valsartan) should not contain NDMA or NDEA.[1] Therefore, valsartan with NDMA or NDEA impurities are not pharmaceutically equivalent or therapeutically equivalent to the RLD due to the presence of NDMA or NDEA. Importantly, the presence of the NMDA and NDEA impurities meant the valsartan drug products were less safe than the RLD.
- Both active pharmaceutical ingredient (API) and finished dose drug manufacturers have an ongoing duty throughout the lifecycle of a drug product that includes the duty to perform adequate risk assessments and to develop and use suitable methods to detect impurities, including impurities present at low levels (i.e., nanogram levels) if the impurities are unusually potent, such as NDMA or NDEA.

[1] The is the case for all valsartan containing products, such as Diovan HCT (valsartan/hydrochlorothiazide), Exforge (valsartan/amlodipine), Exforge HCT (valsartan/amlodipine/hydrochlorothiazide), and Entresto (valsartan/sacubitril).

the requirements of this chapter as to safety and has the identity and strength, and meets the quality and purity characteristics, which it purports or is represented to possess*; …" [emphasis added]*

Thus, the lack of conformity with cGMPs and the presence of nitrosamines in valsartan API and finished drug products rendered valsartan drug products adulterated as defined in FDA laws and regulations.

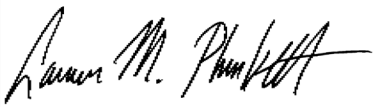
63. Even more important than the fact that the valsartan drug products sold in the US were adulterated is the fact that the nitrosamine impurities in valsartan drug products put patient health at risk. As a toxicologist and regulatory expert, the presence of impurities in drugs used chronically to treat health conditions that are probable human carcinogens (*i.e.,* NDMA and NDEA) is a clear patient safety concern.

X. Additional Information

64. I reserve the right to supplement my opinions in this case if additional evidence related to those opinions becomes available after the deadline for filing of this report.

XI. Compensation

65. My compensation in this matter is at the rate of $400.00 per hour.



Laura M. Plunkett, Ph.D., DABT

InCompliance Solutions

October 31, 2022

Adam M. Slater
Mazie Slater Katz & Freeman
103 Eisenhower Parkway
Roseland, New Jersey 07068

Dear Mr. Slater:

At your request I have reviewed materials including regulatory documents, guidances, and standards, corporate documents including emails, reports, SMP's and similar internal protocols, scientific literature, and deposition testimony, as set forth in this report and the referenced exhibits, and those documents and sources of information listed in the List of Materials reviewed attached as Exhibit B. I have applied my background, training, knowledge, and experience. I have reached opinions with regard to the manufacturing and sale of valsartan API by ZHP that resulted in nitrosamine impurities NDMA and NDEA in the valsartan API manufactured with the TEA with sodium nitrite quenching and zinc chloride processes, and the manufacture by ZHP of valsartan finished dose incorporating that API. The contaminated valsartan API containing those impurities was also sold to and incorporated into finished dose form by finished dose manufacturers Teva and Torrent, who purchased the valsartan API from ZHP and incorporated the valsartan API into their finished dose as well. There were multiple medications sold containing the contaminated API, including formulations with Hydrochlorothiazide, and these drugs are collectively referred to herein as "valsartan" or "valsartan containing drugs."

As set forth in detail herein, it is my opinion that ZHP's development and use of its TEA with sodium nitrite quenching and zinc chloride manufacturing processes for valsartan, violated CGMPs (e.g., 21 CFR §210(a); 21 CFR §211(b); ICH Q7 (Q7)). These violations included inadequate risk assessments and testing during development of the processes, inadequate risk assessment and testing in connection with the manufacture of valsartan with those processes, inadequate risk assessment and testing of manufactured batches as required in ICH Q9 (Q9), and ICH Q10 (Q10) once the drugs containing that API began to be marketed, failure to adequately assess and respond to customer complaints and evaluate unknown peaks on chromatography testing, and manufacture of valsartan with the zinc chloride process and TEA with sodium nitrite quenching process even after ZHP apparently had knowledge as of July 27, 2017 or earlier of the NDMA impurities and that the root cause of nitrosamine contamination in sartans was the quenching with sodium nitrite.

In addition, Huaihai US, Inc. as the US agent of ZHP, and Prinston Pharmaceuticals in its role as purchaser of the ZHP finished dose, which it marketed via its subsidiary Solco, who was

notification…" Kathy Zhang, former Senior Manager of ZHP's Regulatory Affairs, determined, "For risk management purpose, please keep DMF and MTBE residual solvents as in house test items with **Not Detectable** as acceptance criteria until persuasive amount of data (for example 10 consecutive batches) have been accumulated…**the reason to do so is because these two solvents are introduced at step 4, the final synthesis step, and too close to the end. Even worse is that the official residual solvent method for valsartan is not applicable to test these two solvents. Three validation batch alone can't support no testing for them**." (The bold is in the email). Prinston was correct to question the manufacturing process but did not take further steps to ensure that potential genotoxic impurities had been confirmed as not present.

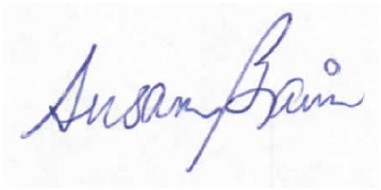
The Change Notification on behalf of Prinston was conditionally signed based on the requirement for the more robust testing for the DMF and MTBE. (ZHP00107734). Of note, the Change Notification that was sent for signature by Prinston (HUAHAI-US00001092) attached Annex 1 with the steps in the process set forth, and indicating that there is no change in the Route of Synthesis. Although Step 4 indicates quenching it does not list sodium nitrite as part of that process. The DMF Amendment does state, "Add quenching procedure after tetrazole reaction with sodium nitrite/HC1 solution." (PRINSTON00079751). Annex 2, the Quality Review, indicates, "The test records of the validation production batches manufactured from optimized process are enclosed to establish the constant quality of Valsartan." and "The items of *new introduced reagent and solvents* are additionally tested for quality review and would not impact the specification." As set forth in detail herein, these statements were incorrect.

As a result of the CGMP violations including the failure to fulfill obligations under the Quality Agreement and potentially per internal protocols, Huahai, US, Prinston, and Solco, sold pills that were represented to be the approved form of valsartan, but in fact were not – instead, they were valsartan containing NDMA, and in some also NDEA. Those pills did not match the description in the original NDA for the brand RLD Diovan or Exforge, the DMF, the applicable ANDAs, the pharmacopeias, or the designation on the label as USP Valsartan. The pills were not the approved formulation of Valsartan and were adulterated by definition.

Conclusion

ZHP, Huahai, US, Prinston and Solco failed to satisfy their duties to ensure that the valsartan API and finished dose manufactured and/or sold by each met the approved identity, quality, and purity of the drug for sale. The CGMP violations described herein, both before and after approval of the applicable ANDA's, resulted in the manufacture and sale of valsartan containing NDMA and NDEA, not the approved valsartan. These process related cGMP deviations, which were present for the manufacture and sale of all pills at issue, resulted in contamination of all pills manufactured with the zinc chloride and TEA with sodium nitrite quenching processes. These violations impacted and economically harmed every person or entity that paid for the contaminated, unapproved valsartan, and exposed each person to the health risks of these probable human carcinogens. The violations of CGMPs in the manufacturing process led to the unacceptable NDMA and NDEA contamination of every pill manufactured with these processes. The valsartan that was sold as the approved form of Valsartan was actually not

the approved form of Valsartan, containing unapproved, undisclosed genotoxic impurities, and meets the regulatory definition of an adulterated drug.



Susan Bain, DRSc

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

IN RE VALSARTAN, LOSARTAN, AND IRBESARTAN PRODUTS LIABILITY LITIGATION ***THIS DOCUMENT RELATES TO ALL CASES***	**MDL NO. 2875** **Civil NO. 19-02875 (RBK/JS)**

EXPERT REPORT OF
RAMIN (RON) NAJAFI, Ph.D.

Date: October 31, 2022

Ramin (Ron) Najafi, Ph.D.

NDEA to maintain the safety and integrity of the drug product. Similarly, if the finished dose manufacturers had conducted a proper risk assessment of the synthetic route used by ZHP to manufacture the API, they too would have discovered that NDMA and NDEA can be formed.

The valsartan drug products which contained NDMA and NDEA as manufactured by the defendants were not the same as the formulation of its brand name counterpart, Diovan, which had a synthetic process using tributyl tin azide like the original ZHP process which did not have the potential based on the route of synthesis (ROS) to form NDMA or NDEA. The Defendants through their ANDA were given permission by the FDA to manufacture valsartan equivalent to the approved name-brand referenced listed drug, not valsartan containing levels of NDMA and NDEA. The referenced listed drug for valsartan is Diovan which does not contain NDMA or NDEA. Defendants' valsartan containing products were not the generic, pharmaceutical, therapeutic and chemically equivalent of Diovan or Exforge because they contained NDMA and NDEA.

ZHP's utter failure to conduct an adequate risk assessment at any point during their production and manufacture of valsartan was noticed by the FDA in its 483 Report stating that ZHP's change control system was inadequate because ZHP failed to evaluate all changes that may affect the production and control of intermediates or API; ZHP failed to conduct and document a formal risk assessment for Change "Request PCRC-11025 to evaluate the potential impact of proposed changes on the quality of the intermediates or the final API; ZHP was in error for initiating validation on a commercial scale without conducting a formal risk assessment to evaluate the potential impact of changes to their validated manufacturing process on the quality of intermediates and APIs; ZHP did not have an adequate change control system requiring scientific judgment to determine the additional testing and validation studies that were appropriate to justify changes to a validated manufacturing process; and ZHP did not always have data to support approval of changes to validated processes. PRINSTON00073432.

ZHP's lack of proper risk assessment also resulted in several other FDA Quality System Inspectional Observations noted in its 483 including:

> Observation One included the fact that ZHP had utilized an outside laboratory to conduct research but failed to enter into a quality agreement with them to ensure validation and qualification of methods and instruments.
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> In Observation Two, the FDA stated that "validation of production processes, cleaning procedures, analytical methods, and in-process control test procedures were not always adequate."
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> In Observation Three, the FDA reported that "the system for managing quality to ensure confidence that the API will meet its intended specifications for quality and purity is not adequate in that your quality unit lacks written procedures and the authority and responsibility to ensure all critical deviations are thoroughly investigated."
>
> Observation Four stated that "the quality unit does not always fulfill the responsibilities of the quality unit to release or reject all APIs."